

08 APR 2005

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
6 May 2004 (06.05.2004)

PCT

(10) International Publication Number
WO 2004/038891 A3

(51) International Patent Classification?: **H02J 13/00**

(21) International Application Number:
PCT/NO2003/000334

(22) International Filing Date: 7 October 2003 (07.10.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
20024833 7 October 2002 (07.10.2002) NO

(71) Applicant (for all designated States except US): **PRO-
TURA AS** [NO/NO]; Olav Brunborgs vei 4, N-1369
Billingstad (NO).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **HANSEN, Roger**
[NO/NO]; Olav Brunborgs vei 4, N-1369 Billingstad (NO).

(74) Agent: **BRYN AARFLOT AS**; P.O. Box 449, Sentrum,
N-0104 Oslo (NO).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,

CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE,
GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,
MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT,
RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR,
TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

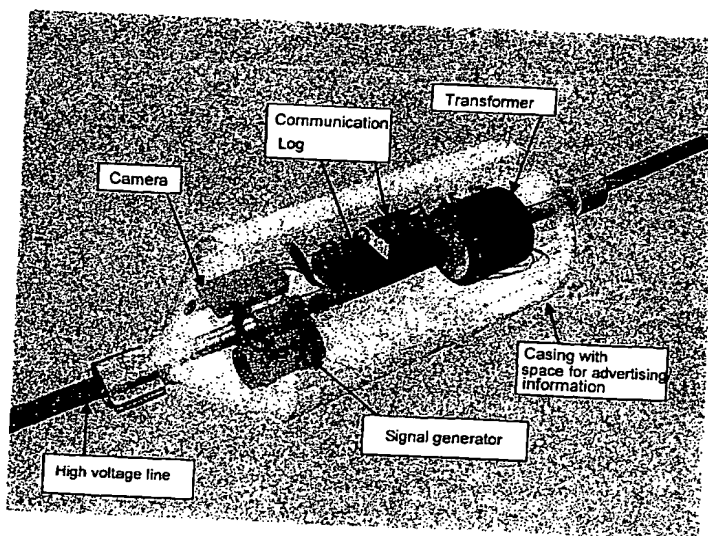
Published:

- with international search report
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

(88) Date of publication of the international search report:
29 July 2004

[Continued on next page]

(54) Title: **SYSTEM AND DEVICE FOR MONITORING AN OVERHEAD POWER LINE**



(57) Abstract: A device is provided for monitoring an electric overhead line, which device is constituted by an independently operating real time multisensor for mounting in a position on a span of the overhead line. The device has a built-in transmitter for transmitting sensor signals to a remote central, and comprises a laser range finder for measuring distance to the ground beneath the overhead line, as well as a camera for visual inspection of the line and its surroundings. Further, there is provided a system for maintaining the operation of a power line network, based on remote-controlled shut-off of switches installed in special appliances, particularly electric hot water tanks, at the premises of small consumers/private households.

BEST AVAILABLE COPY

WO 2004/038891 A3



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International Application No.

PCT/NO 03/00334

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H02J13/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H02J G01R G01B G01K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5 341 088 A (DAVIS MURRAY W) 23 August 1994 (1994-08-23) column 3, line 55 -column 27, line 64; figures 1-31 abstract	1-24
Y	US 4 360 881 A (MARTINSON JOHN R) 23 November 1982 (1982-11-23) column 1, line 63 -column 5, line 32; figures 1-4 abstract	1-13
Y	WO 95 35478 A (HAFSLUND NYCOMED AS ;IVERSEN HAAKON (NO); MORDT HELGE (NO)) 28 December 1995 (1995-12-28) page 12, line 29 - line 35; figures 9-11 abstract	7,14
	--- -/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

5 May 2004

Date of mailing of the international search report

25 MAY 2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

ROLAND LANDSTRÖM/MN

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Publication No

PCT/NO 03/00334

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5341088	A	23-08-1994	US 4728887 A	01-03-1988
			US 5140257 A	18-08-1992
			CA 1249335 A1	24-01-1989
			US 4806855 A	21-02-1989

US 4360881	A	23-11-1982	NONE	

WO 9535478	A	28-12-1995	NO 942358 A	21-12-1995
			AT 183823 T	15-09-1999
			AU 696185 B2	03-09-1998
			AU 2809795 A	15-01-1996
			CA 2191889 A1	28-12-1995
			DE 69511697 D1	30-09-1999
			DE 69511697 T2	04-05-2000
			DK 766809 T3	21-02-2000
			EP 0766809 A1	09-04-1997
			JP 10502730 T	10-03-1998
			NO 965348 A	13-12-1996
			WO 9535478 A1	28-12-1995

US 6229451	B1	08-05-2001	US 6097298 A	01-08-2000

US 4158810	A	19-06-1979	YU 281174 A1	28-02-1982
			DE 2546694 A1	29-04-1976
